



## "Emotional anticipation of the school-to-work transition: A multigroup latent profile analysis"

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### ABSTRACT

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### CITE THIS VERSION

Parmentier, Michaël ; Pirsoul, Thomas ; Bouchat, Pierre ; Nils, Frédéric. *Emotional anticipation of the school-to-work transition: A multigroup latent profile analysis*. In: *The Career Development Quarterly*, (2022) <http://hdl.handle.net/2078.1/266301> -- DOI : 10.1002/cdq.12309

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## Emotional Anticipation of the School-to-Work Transition: A Multigroup Latent Profile Analysis

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This article has been accepted for publication in *Career Development Quarterly*. This is a post-review pre-publication version of the article. Please refer to the following link for the final version: <http://doi.org/10.1002/cdq.12309>.

Please cite as:

Parmentier, M., Pirsoul, T., Bouchat, P., & Nils, F. (2022). Emotional anticipation of the school-to-work transition: A multigroup latent profile analysis. *The Career Development Quarterly*. <https://doi.org/10.1002/cdq.12309>

**Abstract**

This study extends the investigation of future-oriented emotions by investigating students' emotional anticipation profiles at the prospect of the school-to-work transition. Among 2,882 students, latent profile analysis revealed the emergence of four qualitative and quantitative distinct profiles. We also examined the profile similarity across gender, educational type, and the remaining time before the transition. Men and women exhibited both qualitative (i.e., profile shape and prevalence) and quantitative (i.e., levels of profile indicators) differences. However, we found no quantitative differences with regard to the educational type and the remaining time before the transition. To the best of our knowledge, this research is the first to document the complex interaction between anticipatory and anticipated emotions and the suitability of a person-centered approach for investigating emotional experience, especially among men and women. It provides essential practical information for developing a preventive strategy regarding the emotional anticipation of the school-to-work transition.

## Introduction

The school-to-work transition is considered a critical life event for young adults, causing possibly a wide range of different emotional reactions simultaneously (Ersner-Hershfield et al., 2008). Indeed, young adults might anticipate with anxiety that they will struggle to find their first job as well as they might be excited and eager to put their skills into the service of a new organization. Although prior research has shown the role of emotion during the school-to-work transition and the associated job search process (Bonaccio et al., 2014; Côté et al., 2006; Crossley & Stanton, 2005; Stevens & Seo, 2013; Wang et al., 2017), little research has examined the emotional experiences arising before educational and career transitions (Zampetakis et al., 2016), labeled future-oriented emotions. Additionally, most research on emotion—including research relating to the school-to-work transition—has studied positive and negative emotions rather independently from each other, and overlooked the possibility that in many complex and ambiguous situations, individuals can experience both positive and negative emotions at the same time (Fernando et al., 2014).

Using latent profile analysis (LPA), a person-centered statistical method, the current study examined young adults' future-oriented emotions profiles at the prospect of the school-to-work transition. In contrast to the variable-centered approach that aims to examine the on-average relations between variables in a given sample, the person-centered approach aims to identify subgroups (i.e., profiles) that depict distinct combinations and levels of emotional experience. Such an analytical approach thus allows to investigate distinct emotion profiles such as students with positive (negative) emotions only, or students with moderate levels on all emotions. To ascertain the theoretical value and generalizability of our profiles (Morin et al., 2018), the present study also examined whether profiles of emotional anticipation were similar between several differentiated groups of interest that characterize the diversity of young adults approaching the transition from higher education to work: gender (i.e., men vs.

women), the type of higher education institution (i.e., university vs. college), and the remaining time before the school-to-work transition (from the first to the final year of students' studies). In other words, we examined emotional anticipation profiles, and, then, examined how these profiles differed across gender, institution type, and the year of study.

### **Future-oriented emotions**

Looking into the future is associated with strong emotional reactions (Van Boven & Ashworth, 2007), which have been labeled future-oriented emotions (Baumgartner et al., 2008). Two distinct forms of future-oriented emotions have been conceptualized: anticipatory and anticipated emotions.

#### ***Anticipatory emotions***

Anticipatory emotions denote the subset of emotions that individuals currently experience at the prospect of a future event (e.g., How am I feeling *here and now* at the prospect of the school-to-work transition?; (Ortony et al., 1988). Anticipatory emotions are reactions to the prospects of desirable (e.g., finding a job) and undesirable future events (e.g., being unemployed). The two most prototypical families of emotions that best represent the possible anticipatory emotions are hope and fear (Baumgartner et al., 2008; Ortony et al., 1988). For example, a student might feel hopeful here and now at the prospect of finding a job once on the job market. In the same vein, this student might experience fear here and now when he imagines the challenges after his graduation.

#### ***Anticipated emotions***

Anticipated emotions refer to affective beliefs about the future emotions one is expecting to experience in response to an imaged future event (e.g., *How will I feel if I get a job once on the job market?*). In other words, anticipated emotions are based on pre-factual beliefs about imagined situations through mental simulation (i.e., affective forecasting; Wilson & Gilbert, 2003). In this sense, they denote predictions or forecasts of future emotional states. Even

though any emotion can theoretically be imagined through mental simulation, a specific subset of anticipated emotions has been delineated in the context of goal-directed behaviors (Baumgartner et al., 2008; Ortony et al., 1988). Besides the direct reaction to future events characterized by desirable or undesirable outcomes (i.e., happiness and sadness), the (dis-)confirmation of (un-)desired events will produce specific emotions. While a confirmed desired event will generate satisfaction and happiness (e.g., securing a position I had applied for), a disconfirmed desired event will bring about disappointment. Similarly, while the confirmation of an undesired event will produce distress, the disconfirmation of an undesired event will induce relief. Finally, when visualizing his or her own actions and behaviors, agent-based emotions are also likely to arise and lead to guilt and pride depending on the degree of self-approval of these actions (Ortony et al., 1988).

In summary, while anticipatory emotions represent real affective experiences at the prospect of desirable and undesirable possible futures, anticipated emotions are not emotions per se as they represent affective beliefs about the anticipated emotions likely to be experienced during a future event.

### **A person-centered approach of emotional anticipation**

The pursuit of multiple, sometimes conflicting, goals, and the possibility of both positive and negative outcomes at the prospect of the school-to-work transition, are likely to give rise to mixed emotions, that is, the co-occurrence of both positive and negative emotions simultaneously (Ersner-Hershfield et al., 2008; Larsen & McGraw, 2014; Shuman et al., 2013). In recent years, evidence for the co-occurrence of multiple emotions have been accumulated in distinct contexts such as learning, house move, graduation, or advertising (Ersner-Hershfield et al., 2008; Ganotice et al., 2016; Larsen & McGraw, 2014; Williams & Aaker, 2002), using a variety of methods including person-centered approaches (Fernando et al., 2014) and experience sampling studies (Trampe et al., 2015; Watson & Stanton, 2017).

However, we are aware of no studies that investigated the co-occurrence of multiple future-oriented emotions at the prospect of future important transitions such as the school-to-work transition.

As previously argued (Fernando et al., 2014), person-centered approaches are well suited to investigate the multiple emotions and their combinations that individuals tend to experience in specific situations. The aim of the person-centered approach is to examine whether subgroups—also called "profiles"—exist and are distinct on a set of interacting variables. Profiles are interpreted along with two broad characteristics. Level differences are related to the quantitative level of future-oriented emotions (high vs. low). Shape differences refer to the combinations between multiple emotions such as when high levels of specific emotions emerge along with low levels on other emotions (e.g., high positive and low negative emotions). LPA are close to more classical statistical methods such as clustering analysis and both are person-centered methods (Hofmans et al., 2020). Although these two approaches aim to explore and identify subgroups of individuals that are distinct on a set of specific indicators (i.e., dimensions or items such as emotions), LPA (1) is based on the structural equation modeling framework, providing fit indices to choose the best profile solution, the inclusion of measurement errors, and the possibility to include demographics and other covariates, and (2) is prototypical, which means that the assignment of individuals in a given profile is based on probabilities, rather than strict assignment (Hofmans et al., 2020; Spurk et al., 2020).

### **Differences according to gender, institution type, and year of study**

Exploring the differences and similarities of profiles between differentiated groups is an important endeavor for both research and practice (Morin et al., 2016). Indeed, the generalizability of profiles across differentiated groups can be useful to ascertain profile construct validity and for designing career-related interventions. Therefore, we decided to examine variables that are likely to vary in function of emotional anticipation. To this end, we

explored to which extent profiles were similar in differentiated groups of interest based on (1) gender, (2) type of higher education institution, and (3) the remaining time before the transition.

Over the past decades, the stereotypes that women are more “emotional” and that men are more “agentic” have been largely spread in contemporary culture (Barrett & Bliss-Moreau, 2009). Meta-analytical findings focusing on emotional experience during childhood and adolescence indicated that young females tend to report more internalizing emotions such as guilt and shame than young males (Else-Quest et al., 2012). In contrast, young males tend to express more anger than females. Regarding emerging adults, longitudinal findings showed that females are more at risk of depression and stress-related experience than men (Hankin et al., 1998) (McDonough & Walters, 2001). However, reported effect sizes are oftentimes relatively small or inconsistent (Else-Quest et al., 2012), aligning with the gender similarities hypothesis that argues that males and females are similar on most psychological variables (Hyde, 2005).

The second covariate which we focused upon was the institutional type. In Belgium, where the present study took place, and numerous European countries, there are two kinds of higher education institutions that are distinct on a number of features: universities and colleges. Universities propose academic programmes which are primarily scientific and theory-oriented. Most students pursue both a bachelor and a master’s degree as few student selection is implemented. On the other hand, colleges are more practice-oriented and propose rather professional programmes during which students learn professional and practical skills and knowledge for specific jobs and occupations, such as nursing or teaching. Also, colleges are smaller institutions that are usually more professionalizing and offer more internships in contact with “real life.” Universities and colleges are thus distinct on the diversity of



activities, the supervision and evaluation of students, the content of the courses, and ultimately, on the career prospects available to students.

The last covariate that we considered was the remaining time before the transition. Indeed, the role of time and the consideration of temporal dynamics has been highly stressed in the literature on transition. For example, the timing of the transition and its urgency are theorized as important components of how individuals appraise the transition (Anderson et al., 2012). Similarly, in his theory of transition cycles, Nicholson (1990) argued that the specific phase arising before the transition – the *preparation* phase – began way before the transition and that individual differences were noticeable with regard to the unfolding of this specific phase.

### **The present study**

The present study aimed to explore (1) anticipatory and anticipated emotion profiles at the prospect of the school-to-work transition and (2) to investigate whether these profiles are similar in several differentiated groups based on gender, institutional context, and remaining time before the transition. Given the influence of emotions and stressors on students' adaptation to the school-to-work transition, understanding how anticipatory and anticipated emotions co-occur offers the possibility to adopt a preventive approach and deepen our understanding of vocational processes and behaviors before the school-to-work transition. More importantly, it also allows to identify at-risk students and help them to realize successful vocational transitions.

**Research Question 1.** How many profiles of emotional anticipation at the prospect of the school-to-work transition that vary quantitatively (in level) and qualitatively (in shape) emerge in the data?

**Research Question 2.** To what extent are profiles similar in number, shape, resemblance, and size across gender, institutional type, and remaining time before the transition?

To the best of our knowledge, the present study represents the first empirical effort to assess profiles of both anticipatory and anticipated emotions at the prospect of the school-to-work transition. Following the exploratory nature of research questions using person-centered approaches (Hofmans et al., 2020), we left our research question relatively open. We nonetheless expected the emergence of specific profiles based on previous research on emotion profiles in similar contexts. Among university students, Robinson et al. (2017) found four emotion profiles in the context of an anatomy course: *positive*, *deactivated negative*, *negative*, and *moderate-low*. They further showed significant differences in engagement and achievement between the four emotion profiles. More recently, Tze et al. (2020) examined emotion profiles among university students during a two-semester course. They found three profiles characterized by positive emotions, negative emotions, and mixed emotions, respectively. When interpreting their findings over time, they found that most students were relatively stable in their profile over the six months. Finally, they demonstrated that students in the positive emotions and ascending profiles (from mixed to positive emotions over time) achieved better course performance overall than other profiles.

The second aim of the present study was to evaluate the theoretical value and generalizability of our profiles. Following recommendations from Morin et al. (2018), we thus ascertain the construct validity of our profiles by examining the similarity and differences with regard to emotional anticipation profiles between three differentiated groups: (1) men and women (i.e., gender), (2) university and college students (i.e., institutional type), and (3) the different years before the transition (i.e., the remaining time before the transition).

## Method

### Participants

Data were collected among 2,882 postsecondary students in 25 different institutions ( $M_{age} = 21.17$ ,  $SD = 2.87$ ). Regarding gender, 1,275 participants were men (44.20%), and 1,607

were women (55.80%). A total of 1,814 students were studying at university (64.10%), while 1,016 students were studying in a college (35.90%). Regarding the field of study, participants were distributed as follows: Life Sciences ( $n = 656$ , 22.80%), Basic and Applied Sciences ( $n = 633$ , 22.00%), Social Sciences ( $n = 1365$ , 47.40%), and Arts and Humanities ( $n = 228$ , 7.90%). Participants were recruited from the first to the final year of higher education in universities and colleges. From the entire sample, 350, 392, 725, 732, and 642 students were expecting to graduate within 5, 4, 3, 2, and 1 year, respectively.

### **Procedure**

A web-based survey was used to collect the data. Following Nylund et al.'s (2007) recommendations, a minimum sample size for identifying a correct number of profiles is 500 and, given the objectives of the study and the several populations under study, efforts were made to recruit at least 1,000 participants. Given the sensitivity of LPA to unequal sample sizes (Olivera-Aguilar & Rikoon, 2018), data collection efforts were specifically designed to balance the sample proportions regarding gender, institutional type, and year of study. More specifically, all higher education institutions in the French-speaking community of Belgium were approached to participate in the study and share the survey by e-mail. We specifically asked to seek balance in the different fields of study, year of study, and gender. Additionally, snowball recruitment strategies were used by the researchers with the help of several research assistants to ensure this balance in the sample.

### **Measures**

To measure future-oriented emotions, we used an adapted version of the Anticipatory and Anticipated Emotions scale of Baumgartner et al. (2008). Such an adaptation was consistent with previous LPA studies on emotions that used a discrete approach, that is, analyses were conducted at the item-level (e.g., happy) rather than the dimension-level (e.g., positive emotions; Fernando et al., 2014; Ganotice et al., 2016; Tze et al., 2020). Based on the original

scale and emotion literature (Baumgartner et al., 2008; Ortony et al., 1988), 12 emotional states that equally represent the four dimensions of positive anticipatory, negative anticipatory, positive anticipated, and negative anticipated emotions have been selected. Such an adaptation has been successfully used in previous studies (Parmentier, 2021; Parmentier et al., 2022). Even though we used a discrete approach to emotions, we conducted preliminary analyses to investigate the internal consistency of dimensions and measurement adequacy. Internal consistency values ranged from  $\alpha = .66$  to  $.82$ . The measurement model showed adequate fit to the data ( $\chi^2_{(48)} = 709.35$ ,  $p < .001$ ; RMSEA =  $.07$ ; CFI =  $.92$ ; TLI =  $.90$ ; SRMR =  $.06$ ).

For anticipatory emotions, students were instructed as follows: "After completing your studies, you will probably enter the job market and search for a first job. At that time, your goals, your interests, and your personal and professional projects may take a variety of forms. Please indicate how you feel *here and now* at the prospect of your transition to the job market." Students indicated the extent to which they felt optimistic, confident, hopeful, worried, anxious, and nervous. Anticipated emotions were evaluated by two separate instructions (i.e., positive and negative outcomes): "Now please imagine that you have made the transition to the job market. Please indicate how you think you will feel if the months following your entry into the job market, and what you will have done by then, will have had positive (vs. negative) consequences for you and allowed (vs. prevented) you to reach some of your personal and professional goals." Students indicated how happy, proud, and relieved for anticipated positive emotions in the positive imagined situation and how disappointed, guilty, and sad they would feel in the negative imagined situation. The measure is a Likert-type scale, including items from 1 (*Not at all*) to 7 (*Extremely*). We also randomized the order of positive and negative imagined situations.

### **Analytical strategy**

We conducted our analyses with the *Mplus* 8 robust maximum likelihood estimator with full information estimation. As we investigated profiles in differentiated groups, we first performed LPA separately for men, women, university students, college students, and each year of higher education (from 1 to 5 years left). The main process during LPA is to determine the best fitting profile solution (i.e., the most appropriate number of profiles). To this end, it is recommended to perform multiple profile enumeration solutions (e.g., from 1 to 8 profile solutions) and to examine which profile solution provides the best fit indices. To this end, multiple fit information criteria can be used. Here, the Akaike Information Criterion (AIC), the Consistent AIC (CAIC), the Bayesian Information Criterion (BIC), the sample-size adjusted BIC (SABIC), and entropy were used to evaluate the models. The best profile solution should display smaller AIC, CAIC, BIC, and SABIC values compared with other profile solutions and an entropy greater than .70 (ranges from 0 to 1). Nylund et al. (2007) also encouraged to use BIC and CAIC for discriminating best models. Other important elements such as parsimony issues, profile redundancy, substantive theoretical meaning and relevance, and profile size are also considered during the process. LPAs were performed using 5,000 random sets of starting values with the best 200 solutions being retained for the optimization stage.

Following the selection of the optimal profile solution in each differentiated group, we performed profile similarity analyses to explore whether differentiated groups were similar about their emotional anticipation profiles (i.e, do we find the same profiles among men and women?). Accordingly, we compared profiles between men and women, university and college students, and profiles between the remaining years before the transition. To this end, Morin et al. (2016) and Olivera-Aguilar and Rikoon (2018) developed specific procedures to determine the similarity of profiles across differentiated groups. We consecutively explored whether the profiles across differentiated groups displayed (1) the same number of profiles

(i.e. configural similarity), (2) the same shape (i.e. structural similarity), (3) the same variability of emotions (i.e. dispersion similarity), and (4) equivalent sizes (i.e., distributional similarity). Fit indices are also compared to select the optimal model. We thus also compared similarity models with the AIC, BIC, SABIC, and CAIC with decreasing statistics indicating the similarity model to be retained. The BIC, SABIC, and CAIC were privileged because the AIC tend to be oversensitive (Morin et al., 2016; Olivera-Aguilar & Rikoon, 2018). As person-centered approaches are a theory-driven process, it is also essential to evaluate the theoretical and practical meaningfulness of the profile similarity between differentiated groups, and especially with regard to group interventions.

### Results

The fit indices associated with the enumeration process for each differentiated group are displayed in Table 1. Across differentiated groups, an elbow tended to appear around 3-, 4-, and 5-profiles, suggesting that adding profiles after such an elbow adds little to no additional information. For each differentiated group, these three profile solutions were carefully investigated for statistical adequacy and substantive meaning. Overall, the addition from 3 to 4 profiles resulted in the addition of a meaningful profile that was well-defined and distinct from the other profiles. However, adding a profile from 4 to 5 profiles resulted in the arbitrary division into two smaller but similar profiles. Except for gender, profile solutions across differentiated groups were generally very similar. Therefore, we decided to retain the 4-profile solution as the best description of the data.

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INSERT TABLE 1 HERE  
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### Profile similarity analysis

The multigroup profile similarity fit statistics for gender, institutional type, and remaining time before the transition are displayed in Table 2. Concerning gender, the fit statistics increased in all profile similarity models. Partial structural similarity models were fitted and did not yield decreased fit statistics. These results thus support that men and women showed qualitatively distinct profiles of anticipatory and anticipated emotions. We thus decided to retain the model of configural similarity (see Figure 1 and Figure 2). Given these differences in profile shape, variances, and sizes, we tested profile similarity analyses for institutional type and remaining time before the transition while controlling for gender.

Regarding the institutional type, structural and dispersion profile similarity models displayed lower fit statistics values, supporting that profiles were equivalent in shape and within-profile resemblance among university and college students, for both women and men, respectively. Concerning the distributional similarity model, the SABIC value increased, indicating that university and college students' profiles showed differences in terms of proportions. The differences in proportions between university and college students are also displayed in Figures 1 and 2. Concerning the remaining type before the transition, all profile similarity models resulted in decreased fit statistics, indicating that students' profiles were similar for both women and men, respectively.

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INSERT TABLE 2 HERE  
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### **Description of profiles**

Profiles of anticipatory and anticipated emotions at the prospect of the school-to-work transition for both men and women are displayed in Figure 1 and Figure 2. In order to facilitate readability, we first describe the profiles of men. As institutional type was controlled for gender, we detail the percentage of university students and college students for each of the

men's profiles. We then describe each of the women's profiles and document the percentage of university and college students in each profile.

For men, the first profile was characterized by high levels of positive anticipatory emotions, low levels of negative anticipatory emotions, and high levels of anticipated emotions (except for guilt). We thus labeled it *Positive Anticipatory–High Anticipated*. In other words, students in this profile are rather confident, optimistic, and not anxious or nervous, about their future transition. At the same time, when imagining being successful or unsuccessful, they easily anticipate feeling happy and proud or sad and guilty, respectively. A higher proportion of university students (42.10%) belonged to this profile compared to college students (36.60%). The second profile was relatively similar to the first with regard to positive emotions but exhibited very low levels of negative anticipatory emotions and low levels of negative anticipated emotions compared to the other profiles. This second profile was labeled *Positive Anticipatory–Positive Anticipated* and accounted for 15.70% and 21.00% of the samples of university and college students, respectively. In other words, students in this profile are very similar to the first, except that they do not anticipate feeling sad and guilty when they imagine being unsuccessful in their future job search. The third profile was composed of 20.30% and 26.40% of university and college students, respectively, and exhibited rather co-occurring levels of both positive and negative emotions. This profile was labeled *Mixed Anticipatory–Low Anticipated* to reflect this feature and, more importantly, the fact that anticipated emotions for this profile were much lower compared to other profiles. Otherwise said, students in this profile experience both moderate confidence or optimism and anxiety at the prospect of the transition. However, when asked to anticipate their emotions in imagining a (un)successful transition to the job market, they expect feeling rather low levels of positive and negative anticipated emotions. The fourth profile (21.90% and 16.00% of university and college students, respectively) displayed moderate levels of both positive and



negative anticipatory emotions (although negative anticipatory emotions were slightly higher), and mixed and high levels of all anticipated emotions. This profile, labeled *Mixed Anticipatory–High Anticipated*, was thus composed of students quite optimistic and confident at the prospect of the transition but also anxious and nervous at the same time. When imagining (un)successful transitions, they easily anticipate feeling both positive and negative anticipated emotions.

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INSERT FIGURE 1 HERE  
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Even though similarity analyses showed that men and women displayed distinct profiles, the qualitative investigations revealed that the profiles were quite similar with regard to their overall interpretation. The examples that we proposed above for men can thus also be applied to women. Although displaying different levels from a quantitative point-of-view, women also displayed four profiles: (1) a *Positive Anticipatory–High Anticipated* profile, (2) a *Positive Anticipatory–Positive Anticipated* profile, (3) a *Mixed Anticipatory–Low Anticipated* profile, and (4) a *Mixed Anticipatory–High Anticipated* profile. The *Positive Anticipatory–High Anticipated* profile was very similar among men and women. However, in contrast to the results among men, college students were more prevalent in this profile (41.00%) compared to university students (34.80%) among women. The *Positive Anticipatory–Positive Anticipated* profile exhibited a broadly similar pattern, but few key differences emerged, especially with women displaying higher levels of negative anticipatory emotions and lower levels of negative anticipated emotions than men in the same profile. A smaller proportion of women belonged to this profile, and the differences between university and college students were similar to the differences found among men (7.70% and 10.20% for university and college students). For the *Mixed Anticipatory–Low Anticipated* profile, women exhibited

higher levels of both negative anticipatory and anticipated emotions compared to men in the same profile. College students were more prevalent in this profile (21.00%) compared to university students (18.20%). Finally, the *Mixed Anticipatory–High Anticipated* profile was broadly similar between men and women. Similar to results found for men, a higher proportion of university students was found in this profile (39.30%) compared to college students (27.80%). While comparing profile size between men and women, most differences in profile size were found for the *Positive Anticipatory–Positive Anticipated* and the *Mixed Anticipatory–High Anticipated*, with the former (latter) being more prevalent among men.

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INSERT FIGURE 2 HERE  
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### **Discussion**

Building upon a person-centered framework, the present study sought to investigate students' emotional anticipation profiles at the prospect of the school-to-work transition. The second objective was to ascertain their construct validity by systematically assessing whether the profiles were similar across differentiated groups based on gender, institutional type, and the remaining time before the transition.

Our results revealed that four profiles best represented the emotional anticipation experience among students: (1) *Positive Anticipatory–High Anticipated*, (2) *Positive Anticipatory–Positive Anticipated*, (3) *Mixed Anticipatory–Low Anticipated*, (4) *Mixed Anticipatory–High Anticipated*. Such results are consistent with prior research supporting the importance of emotion at the prospect of the school-to-work transition and bring evidence for the co-occurrence of anticipatory and anticipated emotions before career transitions. Prior research based on a variable-centered framework has already highlighted the natural tendency of individuals to experience multiple emotions simultaneously rather than independently

(Ersner-Hershfield et al., 2008; Larsen & McGraw, 2014). However, the present study demonstrated the complex interactions at play among anticipatory and anticipated emotions at the prospect of the school-to-work transition. Using a person-centered approach, we demonstrated that most individuals experienced more than one emotion and how emotions combined at the prospect of the transition to the labor market. The use of this approach in the present study thus offered a more realistic and finer-grained picture of the emotional anticipation profiles of students and responded to *how* students emotionally anticipated their transition. Similarly, these results are consistent with Zampetakis et al. (2016) who also showed the emergence of four profiles of anticipated emotions at the prospect of a business startup. In the same vein, Parmentier et al. (2021, 2022) demonstrated the emergence of several emotional anticipation profiles at the prospect of the transition from high school to higher education. All in all, our study and its findings offer an answer to previous calls for more research on emotion in career development (Hartung, 2011).

A second notable finding is related to the comparison of anticipatory and anticipated emotions. More specifically, we observed that anticipated emotions were higher than anticipatory emotions. This indicates that imagined emotions tend to be more evocative than experiencing current emotions at the prospect of the school-to-work transition. This finding is in line with prior research that demonstrated the individual's tendency to overestimate future affective experiences (Wilson & Gilbert, 2003). Wilson and Gilbert (2003) argued that, when individuals face a risk, the system will motivate individuals to manage negative emotions unconsciously. Thus, individuals have stronger emotional reactions when they imagine their future emotional states rather than when they experience them in the current moment. Second, we observed that anticipated emotions were more likely to co-occur than anticipatory emotions. It is in line with a prior variable-centered study indicating that both positive and negative anticipated emotions are coordinated due to an underlying goal to achieve desired

outcomes and avoid undesired consequences simultaneously (Baumgartner et al., 2008). This might explain why anticipated emotions are more influential in predicting intentions and behaviors than anticipatory emotions (Baumgartner et al., 2008; Xu & Guo, 2019).

The second main objective in the present study was to investigate profile similarity across gender, institutional type, and with regard to the remaining time before the transition. To this end, profile similarity analyses are particularly relevant and important to ascertain the profiles' construct validity and demonstrate that the profiles can reliably be replicated across samples, groups, and educational contexts (Morin et al., 2016). While numerous studies demonstrated important gender differences (Hankin et al., 1998), and other studies found no to small differences (Else-Quest et al., 2012), we showed that the reality might be between the two. Indeed, although the number of profiles was identical, the profiles were differentiated at the quantitative (i.e., level differences) and qualitative (i.e., shape differences) levels. These results thus provide new insights regarding gender differences and bring significant implications. First, overinflating claims of gender differences can have essential costs for women and men in the workplace or within social relationships. Therefore, it is crucial to investigate the differences between men and women, but also within these two subgroups. Second, while previous meta-analyses investigating emotional expression and experience during childhood and adolescence showed few differences between men and women (Else-Quest et al., 2012), the person-centered approach used in the present research offered a better and realistic depiction of gender differences. This study thus reinforces the importance for researchers to develop similar methods as part of their statistical analyses.

Regarding the institutional type, we found the same profiles for university and college students, but they only differed in terms of proportion. Importantly, these results were found while controlling for gender differences. While the *Positive Anticipatory–High Anticipated* profile was more prevalent among university than college students among men, a reversed

pattern was found for women as the profile was more prevalent among college compared to university students. Other differences between institutional types were consistent across gender. The *Positive Anticipatory–Positive Anticipated* and the *Mixed Anticipatory–Low Anticipated* were more prevalent among college students, whereas the *Mixed Anticipatory–High Anticipated* profile was more prevalent among university than college students. This suggests that even though students are enrolled in a different academic environment, the configuration of emotional anticipation is the same for both groups. Although prior research has already examined university and college students' differences about the academic adjustment to the transition to higher education (Willems et al., 2021), this is the first study that compared the differences in emotional processes among the two educational contexts. From a practical perspective, the present findings represent an important step in relation to students' emotional anticipation. By providing empirical evidence of similarity between university and college institutions, it is, therefore, possible to develop interventions beneficial to many students without considering the specificity of the two institutions.

Besides gender and institutional types of differences, profiles concerning the remaining time before the transition displayed the same shape, within-profile resemblance, and profiles size. Such a finding might be surprising with regard to the importance of temporal dynamics in how individuals appraise their transition (Anderson et al., 2012). It, however, indicates that students experience multiple emotions from their first to their final year of studies. According to Nicholson's transition theory, the transition begins way before the transition with a "preparation" phase. Developing anticipation and expectations are, therefore, a natural aspect of the transition. Future research examining the dynamic and transition between emotional anticipation profiles is therefore needed to better investigate the differences during the preparation phase. Importantly, our investigation was cross-sectional and did not investigate the development of emotional anticipation over time. Indeed, Parmentier et al. (2021) showed,

for instance, that profiles of emotional anticipation at the prospect of the transition to university were stable over time but that such a stability did not preclude the emergence of within-person transitions between profiles over time.

### **Limitations and future directions**

The current study was limited in several ways. First, the study relied upon a cross-sectional study. Doing so, it limits the possibility to examine the developmental effects of future-oriented emotions. Future research should develop longitudinal designs to investigate how students' emotional anticipation fluctuates from the beginning to the end of their studies. Second, the present study has not investigated antecedents and outcomes of the emotional anticipation profiles. However, investigating key covariates is an important step to ascertain the construct validity of the profiles (Hofmans et al., 2020). For example, examining the relations between the profiles and job search self-efficacy or job search clarity could be particularly interesting given their importance in the job search preparation processes (Côté et al., 2006). It could also be relevant to examine social support given the importance of parents and relationships during the school-to-work transition (Phillips et al., 2002; Vignoli et al., 2020). Third, some contextual variables are probably related to emotional anticipation. For example, investigating specific educational climates or study programs could bring essential insights for better understanding the similarity and differences between colleges and universities. A final limitation is related to our limited conceptualization of gender as a dichotomous variable. Such conceptualization is restricted in encompassing the full scope of gender identity (e.g., intersex, ambigender, transgender) and self-concept (Brody et al., 2016), and thus warrant future research on the psychological mechanisms that might mediate the link between gender and emotions.

### **Practical implications**

Overall, the present research supports the importance of considering the complexity of students' emotional anticipation at the prospect of the school-to-work transition. Indeed, such an emotional complexity echoes the multifaceted, complex, and ambivalent nature of this specific transition. First, our findings invite counselors and practitioners to embrace such complexity and depart from a deterministic view of emotions as always good or bad. Such implication not only invites counselors to assess profiles of future-oriented emotions but also to fully understand the array of individuals' representations, expectations, appraisals, goals, and barriers associated with the transition. In addition, evidence of the generalization of profiles across institutions, gender, and studies is critical in normalizing intense and acute future-oriented emotions among clients. Second, developing adequate and future-oriented interventions might represent a second practical implication of our findings. Indeed, developing career counseling focusing on the mental simulation of the future and associated anticipated emotions might represent an interesting line of inquiry to help students engage in proactive career behaviors. Finally, our results are also informative on the importance of adopting a preventive approach in the various educational policies and programs that are used in higher education. Practices and programs that pay particular attention to individuals' emotional anticipation, particularly their evolution over time before the transition, are likely to be effective. This is particularly important because previous work suggests, for example, that students often develop unrealistic expectations when making the transition from university to the labor market (Perrone & Vickers, 2003), which, in turn, can lead to overconfidence or inadequate preparation. Finally, and more broadly, our study and its results highlight the importance of considering emotional processes during career transitions, a subject that has received scant attention up to now, as exemplified by repetitive calls for more research and interventions in emotion in careers (Hartung, 2011; Kidd, 1998, 2004).

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Table 1.

*Group-specific Latent Profile Enumeration Fit Statistics.*

	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy	Smallest profile
<i>Male students</i>									
1	-26,538.68	24	1.134	53,125.37	53,248.98	53,172.75	53,272.98	1	–
2	-25,456.27	49	1.944	51,010.53	51,262.91	51,107.27	51,311.91	0.795	47.45%
3	-24,694.75	74	1.241	49,537.50	49,918.65	49,683.59	49,992.65	0.827	20.00%
4	-24,349.82	99	1.295	48,897.65	49,407.57	49,093.10	49,506.57	0.836	17.49%
5	-24,101.56	124	1.162	48,451.11	49,089.80	48,695.91	49,213.80	0.818	10.04%
6	-23,931.87	149	1.844	48,161.74	48,929.19	48,455.89	49,078.19	0.819	9.65%
<i>Female students</i>									
1	-32,157.87	24	1.243	64,363.75	64,492.92	64,416.68	64,516.92	1	–
2	-30,639.58	49	1.299	61,377.15	61,640.88	61,485.21	61,689.88	0.831	44.68%
3	-29,613.04	74	1.092	59,374.08	59,772.36	59,537.27	59,846.36	0.828	23.58%
4	-29,310.84	99	1.176	58,819.67	59,352.51	59,038.00	59,451.51	0.835	8.24%
5	-29,030.44	124	1.221	58,308.88	58,976.27	58,582.34	59,100.27	0.844	8.40%
6	-28,875.53	149	1.438	58,049.05	58,850.99	58,377.65	58,999.99	0.834	5.54%
<i>University students</i>									
1	-37,293.03	24	1.232	74,634.07	74,766.15	74,689.90	74,790.15	1	–
2	-35,448.79	49	1.416	70,995.59	71,265.25	71,109.58	71,314.25	0.861	42.94%
3	-34,398.99	74	1.309	68,945.97	69,353.21	69,118.12	69,427.21	0.835	22.77%
4	-33,894.14	99	1.193	67,986.97	68,531.10	68,216.58	68,630.10	0.824	16.59%
5	-33,584.24	124	1.418	67,416.48	68,098.89	67,704.94	68,222.89	0.828	11.08%
6	-33,364.82	149	1.401	67,027.64	67,847.63	67,374.27	67,996.63	0.842	6.89%
<i>College students</i>									
1	-20,950.39	24	1.068	41,948.78	42,066.94	41,990.72	42,014.72	1	–
2	-20,042.57	49	1.092	40,183.15	40,424.41	40,268.78	40,473.41	0.803	38.23%
3	-19,443.28	74	1.189	39,034.55	39,398.90	39,163.87	39,472.90	0.821	30.61%
4	-19,153.65	99	1.225	38,505.31	38,992.75	38,678.31	39,091.75	0.845	12.99%
5	-18,966.73	124	1.284	38,181.46	38,791.99	38,398.15	38,915.99	0.853	10.47%
6	-18,850.48	149	1.213	37,998.95	38,732.57	38,259.34	38,881.57	0.841	8.96%
<i>5 years left</i>									
1	-7,334.60	24	1.141	14,717.19	14,809.78	14,733.65	14,833.78	1	–
2	-6,971.66	49	1.243	14,041.32	14,230.36	14,074.91	14,279.36	.886	34.57%
3	-6,749.21	74	1.120	13,646.42	13,931.91	13,697.15	14,005.91	.868	27.43%
4	-6,628.96	99	1.186	13,455.92	13,837.86	13,523.79	13,936.86	.859	14.86%
5	-6,536.09	124	1.174	13,320.18	13,798.57	13,405.19	13,922.57	.880	11.71%
6	-6,492.45	149	1.180	13,222.90	13,797.74	13,325.06	13,946.74	.886	8.00%
<i>4 years left</i>									
1	-7,975.06	24	1.248	15,998.12	16,093.43	16,017.28	16,117.43	1	–
2	-7,521.93	49	1.282	15,141.85	15,336.44	15,180.97	15,385.44	.873	49.49%
3	-7,309.70	74	1.131	14,767.40	15,061.27	14,826.47	15,135.27	.856	16.58%
4	-7,202.48	99	1.318	14,602.95	14,996.11	14,681.98	15,095.11	.873	8.18%
5	-7,110.03	124	1.303	14,468.05	14,960.49	14,567.04	15,084.49	.865	9.18%
6	-7,056.91	149	1.270	14,411.81	15,003.54	14,530.77	15,152.54	.849	7.65%

*Note.* LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test. The 7 and 8 profile solutions are not displayed for parsimony reasons.

Table 1 (*continued*).

	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy	Smallest profile
<i>3 years left</i>									
1	-14,892.26	24	1.149	29,832.52	29,942.59	29,866.38	29,966.59	1	–
2	-14,196.86	49	1.299	28,491.71	28,716.43	28,560.84	28,765.43	.808	30.90%
3	-13,771.23	74	1.189	27,690.47	28,029.85	27,794.87	28,103.85	.827	25.93%
4	-13,598.51	99	1.214	27,395.01	27,849.04	27,534.69	27,948.04	.831	14.48%
5	-13,452.34	124	1.612	27,152.68	27,721.37	27,327.63	27,845.37	.865	5.66%
6	-13,470.74	149	1.147	27,239.48	27,922.82	27,449.70	28,071.82	.850	0.00%
<i>2 years left</i>									
1	-14,996.84	24	1.163	30,041.68	30,151.98	30,075.77	30,175.98	1	–
2	-14,318.19	49	1.417	28,734.38	28,959.58	28,803.99	29,008.58	.866	34.29%
3	-13,866.46	74	1.212	27,880.93	28,221.02	27,986.04	28,295.02	.835	30.60%
4	-13,629.89	99	1.193	27,457.79	27,912.77	27,598.41	28,011.77	.843	17.08%
5	-13,520.10	124	1.269	27,288.20	27,858.08	27,464.34	27,982.08	.833	12.57%
6	-13,409.19	149	1.238	27,116.39	27,801.16	27,328.04	27,950.16	.836	8.33%
<i>1 year left</i>									
1	-13,229.69	24	1.176	26,507.39	26,614.54	26,538.34	26,638.54	1	–
2	-12,579.43	49	1.713	25,256.87	25,475.63	25,320.06	25,524.63	.826	46.42%
3	-12,152.33	74	1.371	24,452.65	24,783.03	24,548.09	24,857.03	.844	39.56%
4	-11,958.07	99	1.247	24,114.13	24,556.13	24,241.81	24,655.13	.840	17.13%
5	-11,831.08	124	1.275	29,910.16	24,463.77	24,070.07	24,587.77	.840	13.40%
6	-11,753.26	149	1.193	23,804.52	24,469.75	23,996.68	24,618.75	.838	9.35%

*Note.* LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test. The 7 and 8 profile solutions are not displayed for parsimony reasons.

Table 2.

*Multigroup profile similarity fit statistics*

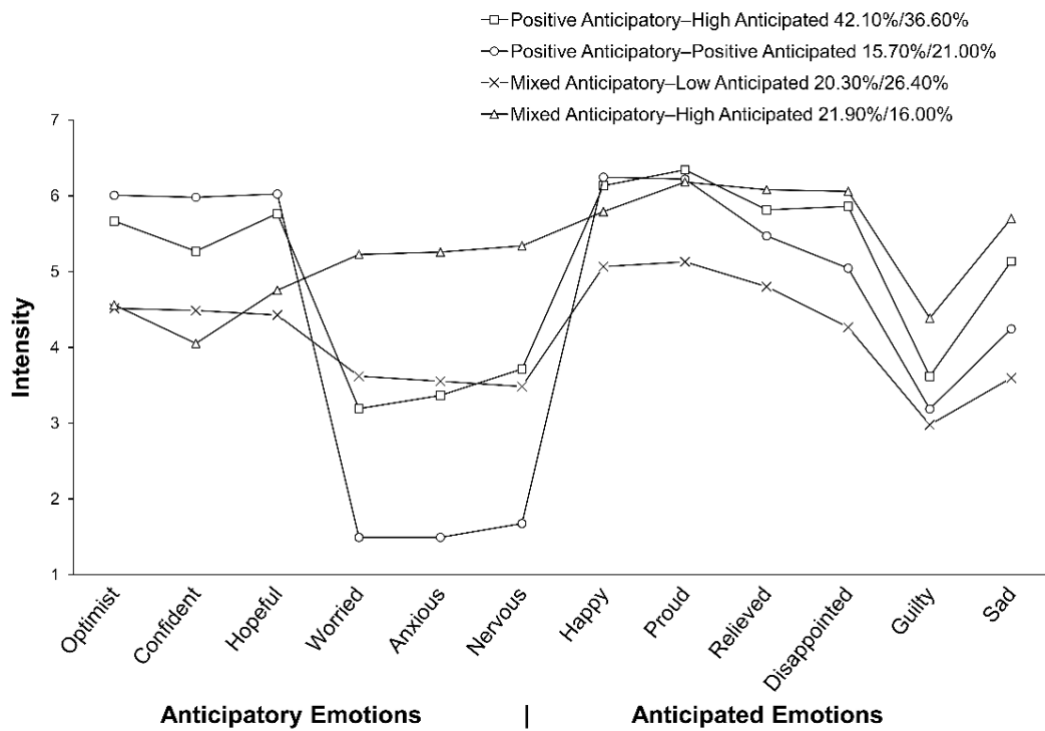
Models of similarity	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy
<i>Gender</i>								
Configural	-55,639.15	199	1.234	111,676.29	112,863.57	112,231.28	113,062.57	.890
Structural	-55,914.36	151	1.191	112,130.71	113,031.61	112,551.83	113,182.61	.890
Dispersion	-55,960.34	103	1.369	112,126.67	112,741.20	112,413.93	112,844.20	.888
Distributional	-56,112.26	100	1.337	112,424.53	113,021.15	112,703.42	113,121.15	.888
<i>Institutional type</i>								
Configural	-56,303.54	399	1.254	113,405.09	115,778.35	114,510.59	116,177.35	.835
Structural	-56,399.39	303	1.158	113,404.79	115,207.04	114,244.31	115,510.04	.836
Dispersion	-56,460.35	207	1.231	113,334.70	114,565.94	113,908.23	114,772.94	.836
Distributional	-56,476.19	201	1.234	113,354.38	114,549.94	113,911.29	114,750.94	.835
<i>Remaining time before the transition</i>								
Configural	-58,844.29	999	1.035	119,686.59	125,632.55	122,458.37	126,631.55	.872
Structural	-59,024.16	615	1.047	119,278.32	122,938.75	120,984.68	123,553.75	.847
Dispersion	-59,260.36	231	1.220	118,982.73	120,357.62	119,623.65	120,588.62	.836
Distributional	-59,280.25	207	1.235	118,974.49	120,206.54	119,548.82	120,413.54	.835

*Note.* LL = log likelihood; fp = free parameters; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC.



Figure 1.

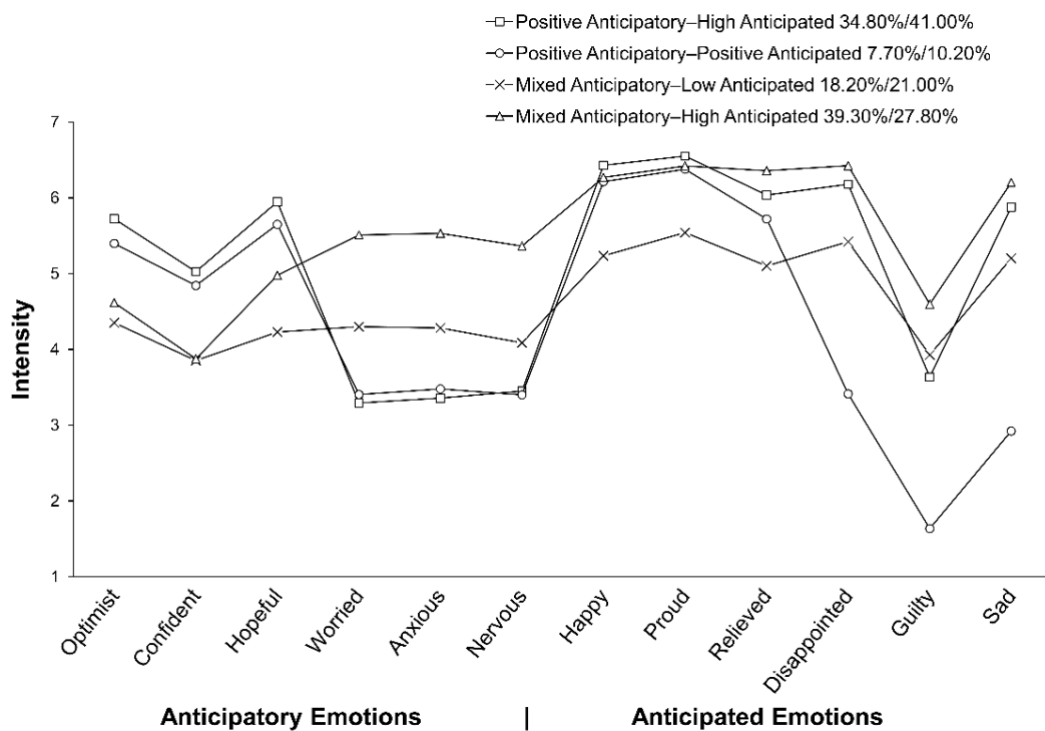
*Final LPA solution with configural similarity for men*



Note. Percentages are indicated for university and college students, respectively.

Figure 2.

*Final LPA solution with configural similarity for women*



Note. Percentages are indicated for university and college students, respectively.